

I. Welcome - Thomas “Hank” Pelkey, Chair, Town of Pittsford Select Board

- Explained that the town was pleased to host this meeting and welcome the independent scientists and engineers who studied the Omya site over the last 16 months.
- Noted that the town is interested in what these experts have to tell us about Omya's environmental footprint and learn what Omya may have to say about its future operations.

II. Opening Remarks and Introduction of the Oversight Team - Tony Colak, CEO, Omya

- Welcomed community members and thanked them for their attendance
- Introduced Section 5 Oversight Team members and explained Omya’s participation in the Section 5 Study Process
- Emphasized the Omya’s commitment to progress throughout and following the Study

III. Overview of the Collaborative Process – Jasmine Tanguay, CLF Ventures

- Jasmine Tanguay provided a summary of the Section 5 Process including:
 - The original legislative mandate
 - Selection of and activities of consultants
 - Oversight team participation and functions
 - Maintaining independence of the study
 - Request for proposals
 - Phase I and II Study Activities
 - Introduced Scientist panel
 - Directed audience to Section 5 resources on www.omyainvermont.net

IV. Scientist’s Presentation on Section 5 Study Findings - Led by Peter Zeeb, Geosyntec

- Peter Zeeb, Geosyntec Consultants noted that his presentation was a 20,000 foot elevation summary of process
- Reiterated charge and legislative mandate that governed the process
- Outlined the study areas specifically identified in the legislation, which included: hydrogeology, groundwater samples, analysis of tailings, toxicity, dust, and quality assurance/quality control
- Scientists also expanded upon the mandate to review four other study areas including noise, hazardous air pollutants, storm water, and odor
- Highlighted major subject of the study was the Omya facility and described the plant’s processes
 - The Verpol site is 380 acres
 - Marble ore is trucked into the site
 - Omya uses floatation reagent used to float off impurities in the ore, which produces tailings. Tailings are pumped as a slurry into settling cells. Tailings are moved from settling cells to former quarries as they are progressively dewatered. Product may then be treated.
 - Process water is derived from storm water and municipal supply

Section 5 Study
Community Meeting Summary
Monday, February 25th, 2008

- Explained the activities at the Hogback Quarry
 - Mined for ore and aggregate
 - Blasting is employed. Explosives used historically that contained perchlorate (which is also found in rocket propellant, road flares, fireworks). Residual amounts of this chemical (perchlorate) found in blasting sites
 - Quarry is actively dewatered site except in the winter

- Reviewed locations of public and private drinking water wells. Noted that these wells are not located not within Hogback Quarry or Verpol plant property

- David Adilman (Geosyntec Consultants) highlighted one of the first approaches of the study
 - Created digital rendering of the site based on topographic data, which was collected by Omya, digital elevation models maintained by the federal government, plus aerial photographs
 - Provided an overview of the lay of the land at the Omya site
 - Site sets in between two ridges of land
 - Groundwater and surface water flows from the south to the north
 - Presented scope of study on site location plan (map)

- Peter Zeeb reviewed the methods employed by the consultants to answer the question “how do we study potential human health and environmental effects?”
 - Identify potential sources of chemicals
 - Map potential exposure pathways to those chemicals
 - Identify potential receptors at the end of these pathways (humans and wildlife)
 - Measure or estimate exposure levels at any receptors that are exposed
 - Estimate the risk posed to these receptors
 - Presented conceptual exposure model
 - Explained that pathways could include groundwater, surface water runoff, wind
 - Receptors include bedrock supply wells, gravel supply wells (Florence well), wetlands and streams (ecological receptors)

- Described consultant activities following the review of existing data
 - Drilled 6 new deep bedrock wells
 - Conducted detailed borehole surveys
 - Collected surface water and groundwater samples
 - Excavated test pits – areas where they have been waste burial on the site
 - Evaluated surface water and groundwater migration pathways
 - Examined the toxicity of Verpol-related chemicals
 - Including AEEA and TOHI
 - Consultants derived health-based guidelines for these chemicals because they did not exist prior to the study
 - Evaluated dispersion of air pollutants from site sources
 - Sampled and analyzed ambient air and sources of dust
 - Assessed noise impacts

- Provided a summary of findings of the Study
 - Hydrogeology, groundwater sampling, data analysis of waste tailings:
 - Groundwater contains several contaminants related to site activities but the extent of migration is limited
 - Two chemicals (AEEA and stearic acid) are present in off-site groundwater and at a spring
 - One chemical has impacted drinking water (perchlorate) but a level far below drinking water standards
 - Storm water
 - Storm water also contains some process chemicals
 - Storm water is infrequently discharged from the site
 - Ongoing monitoring is appropriate.
 - Toxicity
 - AEEA causes birth defects in laboratory rats, presumed capable of same in all mammalian fetuses. AEEA poses minimal risk in water containing less than 20ppb.
 - TOHI essentially nontoxic at environmental levels
 - Hazardous Air Pollutants (HAPS) are emitted from Verpol, but not at substantial rates
 - Quality Assurance/Quality Control
 - Used new method for analyzing AEEA is specific and sensitive, but expensive and only available in one commercial lab in CA. A more accessible method may be developed.
 - Dust
 - Onsite operations are not a substantial source of dust.
 - Trucking related to Omya's operations increases dust levels in a local neighborhood.
 - Odors
 - Odor complaints were more frequent historically
 - Process changes have abated odors to a degree, and recent complaints have been few
 - Recent abatement measures have produced significant results.
 - Noise continues to be objectionable to some neighbors.
- Provided additional detail related to the key study findings
 - Surface and Groundwater
 - Presented findings by chemical
 - AEEA and Stearic Acid
 - AEEA and stearic acid released to surface water and groundwater
 - Stearic acid regarded as non-toxic chemical (essentially fat)
 - AEEA is toxic above safe drinking water standards of 20ppb
 - Presented floatation process and AEEA cycle schematic
 - Background:
 - AEEA most soluble and toxic of chemicals from tailings
 - AEEA byproduct of manufacturing process

Section 5 Study
Community Meeting Summary
Monday, February 25th, 2008

- Something Omya is working hard to get out of reagent, not easy to do
- AEEA concentrations and migration throughout the site:
 - Tailings water is recycled or dredged
 - AEEA concentration at 5000ppb in plant water tank
 - Some water gets sent in the tailings to the Drake Management Quarry, but these contain significantly less AEEA
 - Tailings sent to Dolomite Quarry, where AEEA is present at 30ppb
 - Possibility for AEEA to be present in monitoring wells from fractures in the quarry, etc.
 - Found migration from quarries at around 30ppb
- Presented AEEA and Stearic Acid in Groundwater and Surface Water Aerial Schematic
 - AEEA not a common chemical
 - Water within the Pittsford Italian Quarry and in east basin which discharges water into Crucible Spring
- Reviewed Iron Manganese and Arsenic Schematic
 - Iron
 - Found at a number of locations ranging between ten and one hundred times higher than drinking water standard, which is an impact of site use not direct discharge
 - Changes in the geochemical structure, such as the presence of tailings, etc. all exclude rainfall recharge which makes iron more soluble
 - Source of iron is bedrock
 - Release of iron comes from the same process that causes the release of arsenic
 - Natural processes can result in the variability of iron
 - Important to note that what is seen on this site is similar to what's seen in un-impacted iron in groundwater absent of industrial activity
 - Iron may be partially result from site activities because GW flows from south to north
 - Below that the outcome of this finding is that additional sampling should be done to determine that iron is not found offsite
 - Impact of groundwater that may render it undrinkable if it was found offsite
 - Arsenic
 - Found below the site
 - Drinking water standard is 10ppb
 - Occurs within the same footprint of dissolved iron
 - Consultants were out on the site with Mike Laurent today to identify locations to drill additional monitoring wells to determine edge of arsenic impacts
- Reviewed perchlorate map
 - Detected on outfall from Hogback Quarry

Section 5 Study
Community Meeting Summary
Monday, February 25th, 2008

- 1st occasion 77ppb
 - Next test 8ppb
 - Several additional samples with results all under 1ppb
 - Sampled all closest residential wells for perchlorate
 - Found that nothing could be detected in most wells
 - Remainder of wells had detections between .07 and .05ppb (drinking water standard is 4ppb)
 - Don't believe that residential wells, i.e., those up-gradient of quarry, will be impacted
 - Groundwater always moving toward the quarry and not away from it
 - Concentrations attributable to non-point sources
 - Reviewed several studies where fireworks are used, including a UMASS Dartmouth Study on fireworks display areas, which showed perchlorate concentrations ranging between 1-15ppb
 - Believe that these concentrations pose no impacts on human health
 - On-site concentrations are at one fourth of the drinking water standard
 - Presence of perchlorate is likely due to historical blasting on site
 - Florence well sampling had about .2ppb (1/20th drinking water standard)
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- Outlined dust findings
 - Didn't observe measurable impacts of dust
 - Number of sampling locations installed over this multi-month study
 - Saw that day-to-day dust levels coordinated with state-wide dust events
 - Coordinated with sulfur emissions, which are associated with coal-combustion
 - Omya truck routes tested showed elevated dust concentrations (by a factor of 2) but similar to what was experienced on route 7
 - Reviewed average dust concentrations map
 - Dust concentrations not elevated dust at downwind testing station
 - Similar to what is considered "background" along truck route, which is also similar to what's found on route 7
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- Reviewed Hazardous Air Pollutants
 - Conducted stack testing at the facility to measure the presence of these chemicals in air
 - Important to note that just burning fuel will produce air pollution
 - Emissions rate were estimated for all sources on the plant
 - Mike Laurent and team performed simulations using widely-accepted and well-described modeling tools to describe exposure levels at receptors throughout Florence
 - None were of toxicological concern
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- Explained Odor testing and findings
 - Focus of Omya's abatement efforts before the consultants came on the scene
 - Investigated by Omya before we started
 - Odor issues traced to dryer at east plant
 - Process was changed and chemicals were reduced ten-fold

- Interviews conducted and the outcome was that the consultants are not aware of significant complaints about odors since that fix, problem is much diminished
- Way to continue testing is to register complaints if there are problems

V. Question and Answer Section with the Scientists

Q1: Can you please provide additional information on the AEEA situation?

A1: (Laura Green from Cambridge Environmental addressed this question) AEEA is a chemical that is in Omya's flotation reagent now but they don't particularly want it in there. About 1% or so of the flotation reagent is comprised of AEEA but Omya is working with chemist to reduce this. He provided five potential substitutes. Three of the five are not even being considered because they have their own toxicity issues. No one else has ever requested this so it is taking some time.

Summarized history and regulations as they related to AEEA. Chemical companies that make this chemical started testing it in 2002. Found that it was surprisingly toxic to rat fetuses so they reported this finding to EPA. Federal law created in 1977 mandates that companies have to report any harm to human health within 30 days of these findings. But the law says that you don't have to go any further. So chemical companies never produced or published this data nor did they tell their customers. Consultants located 3 studies of AEEA to date. Also, EPA is not mandated to notify its sister agencies about these results, so they don't.

Only way consultant team found it was by asking Google in August of last year. Searched Google using AEEA's Chemical Abstract Service Number (all chemicals are register with this number, much like a social security number). Came as a shock to Omya that they were buying this chemical. Unfortunately it's water soluble. Fortunately it's also very biodegradable. The good news is that after you go 300 feet down gradient it's not present

Omya worked with the consultants to develop new monitoring wells to test for AEEA. Conducted a number of sampling events and found that within 400 feet it's all gone and its good to note that the down gradient property is 2000 feet. Remain dedicated to finding the best available substitute for AEEA within the floatation reagent so the whole thing goes away. One disquieting finding was that AEEA can make its way to a non-potable spring on private property, though concentrations found on this site are quite low

Comment from Community member – This illustrates the value of Section 5 study. You found something Omya wasn't aware of and that was a direct result of this Study.

Q2: (Directed at Omya) What are you guys doing to reduce your carbon footprint, and how will this affect all plants globally or your plants in North America?

A2: Tony Colak, Omya responded: We have lots of environmental projects underway here in Vermont. Currently have a project under construction that removes need for settling cells so that process water is captured in a manmade structure. This reduces issues that were addressed earlier with regard to process water content. We have a quarry in Middlebury Vermont that's a major supply source for Omya which brings us rock by truck. We're working to expand capacity for trucks to deliver stone to the plant and working to develop a

Section 5 Study
Community Meeting Summary
Monday, February 25th, 2008

rail spur to take trucks off the road. We'll also use rail to ship our finished product to be more efficient from an emissions standpoint.

Globally we have other initiatives. We deliver by ship and by rail. Some of our plants are located onsite of our customers to just pump it directly to them. Our product in of it self reduces the need for pulp in the papermaking process, it's used as a filler. There area also whole lot of uses for calcium carbonate – it replaces resins in plastics, removing the need for oils in making plastics

Q3: Do you think it's important that you help the environment?

A3: Tony Colak responded – it's always important to be responsible. We want to be responsible citizens wherever we operate. We're exploring how our products can be used for sulfur dioxide cleansing in power stations or in other contaminated sites where acidic runoff is an issue. Our products can be used as those solutions.

Q4: Can you show the hydrogeology picture of the quarry down into the groundwater? Do you have any idea how large the aquifer under the site is and how deep the Pittsford town quarry goes down into the aquifer?

A4: David Adilman, Geosyntec Consultants addressed this question, pulling up the hydrogeology three dimensional schematic. There are two ridges that control the groundwater flow. This map illustrates why Omya is able to capture storm water, because it's contained within the ridges.

Q5: How deep is the Pittsford town quarry?

A5: Don't know exactly how deep it is. Omya stops pumping at a certain elevation (22 foot elevation difference) because the water silt content increases significantly.

Q6: Do you know the depth of the lowest point Omya pumps?

A6: Estimate that it's around sixty to ninety feet deep.

Q7: What do the colors on the model mean?

A7: Multicolored water table shows the groundwater elevation contours.

Q8: Are there new wells being drilled for contaminants?

A8: We're working to test for chemicals and tie into groundwater hydrology map.

Q9: You reported that through your dust particle monitoring you noticed one of the stations was here in town and the ppb were equivalent to the truck route. Has there been any studies done up and down Route 7 along the state?

A9: We're not certain if there are other monitors up and down Route 7. Existing federal standard for average dust – which is still used within Vermont – is 75 micrograms per meter. The measurements we obtained were much lower and similar to what would be detected in rural areas.

Q10: Did the study give Omya a clean bill of health?

Section 5 Study
Community Meeting Summary
Monday, February 25th, 2008

A10: Laura Green - Depending on what you focus on the answer is yes or maybe. It's certainly important that the water is safe to drink, though there should be more studies of perchlorate in the future. The air is safe to breathe. People that grow vegetables or hunt and fish in the area, these activities are not adversely affected by Omya. Annual inspections are important to maintain certainty.

Lawrence Copley – On the subject of noise, we found noise from plant, trucks and transportation, and from the Hogback Quarry. The most annoying noise detected was from the plant itself because it operates 24 hours a day 7 days a week. Most effort focused on helping Omya establish a pathway forward to mitigating noise coming from their plant. It is feasible to make significant improvements moving forward. The Section 5 Study confirmed what the neighbors had said. There has been some attenuation of noise. The company responded by developing methods to accomplish that mitigation.

Q11: Have you identified specific sources of noise from the plant, e.g., grinders, etc? And determined how that's coupled out and can you find certain parts of the plant that can be controlled?

A11: There are hundreds of machines that produce sound and different characters of sound and the process of determining which of these of machines carry out noise to particular residence nearby is extremely challenging. Omya engaged acoustical consultant in advance of the study to do mathematical modeling to determine which of the machines affect the neighbors. The focus was primarily to address how the noise get from point a to b? It's a very complicated process to determine and it will take some time. But I'm convinced that it is possible to make progress on noise.

Q12: It is possible that the building itself makes noise? Could it be from the vibrations of building?

A12: Difference between structural noise rather than other noise causing building to act like a loud speaker. We sought to prioritize things that could be identified and addressed very promptly. If the building itself was causing noise through vibrations, that would be categorized as more of a long term solution of rebuilding this structure if it was determined to be the source of a significant impact.

Q13: Did you do any investigation on the cancer rates in Florence or of ex-employees?

A13: Laura Green, Cambridge Environmental responded to this question.

We thought hard about this because it's true that you'd like to know the health of your neighbors. Unfortunately there aren't enough people in Florence and Pittsford and that makes it really hard to get any meaningful information on very few people. We looked at the state-wide cancer registry and found that to be similar to the data for the rest of the county. We didn't look at the county level because we didn't think we'd be able to get any useful information so we didn't pursue it. It's certainly true that if an industrial process is dangerous you could see it at the level of the workers. But it this wasn't part of our charge and we didn't have the power of statistics to review this data.

Jasmine Tanguay asked if there were any additional questions from the audience.

Tony Colak, Omya, reviewed questions provided by attendees at the beginning of the meeting that were directed at Omya.

Q14: How much product from the Omya plant is sold in dollars?

A14: I can't divulge because we're a private company.

Q15: What are percentage of your sales are used to pay your taxes?

A15: Omya pays a significant amount in taxes.

Tony read the next card which was a comment from a community member - Thank you Omya for the way you support out town, economy and tax base.

Participants applause.

Q16: How big an impact does Omya have on the businesses in the local area? Do you help contribute to their capital?

A16: We don't lend other businesses money to invest typically. We do a lot of business with local railway, trucking company, and contractors. This business is in the millions of dollars on an annual basis.

VI. Omya's Commitment to Continual Improvement - Mike Laurent, Environmental Manager, Omya

- Highlighted Omya initiatives moving forward
- Focusing on with AEEA by working to remove it and get it out of the environment. Based on data found its present in a fraction of settling cells, so we're working to bring it back to the plant rather than storing it at the processing facility.
- Recently got a permit, through Act 250, for the tailings dewatering facility. Mechanically dewater the tailings at the plant to focus on keeping the AEEA out of the environment. Construction of the facility has commenced and we're hoping to have it online in 2009. It will offer significant improvements to reduce water use by up to 90%. Another benefit of this facility will allow us to find additional end uses for our tailings and reduce this waste all together.
- Looking at alternatives and ways to reduce AEEA by working with our supplier. We've already started to receive this substitute floatation reagent and we're looking at alternatives to AEEA. Starting with some lab testing as we speak. Though we're also hopeful that we'll make some improvements, with regard to AEEA reaching the environment, with dewatering facility.
- Continuing and expanding our monitoring activities as well as installing a network of wells. Monitoring will continue (per permitting requirements, etc) at a minimum of two times per year. We're committed to installing new wells within the down gradient northern part of site as recommended by Section 5 and at the Pittsford Italian quarry, as well digging a shallow well down gradient of Dolomite.
- Future monitoring will continue for AEEA and other process chemical constituents. Perchlorate testing at Hogback Quarry will continue in accordance with east and west plant monitoring activities through our state-approved monitoring plan

- Trying to better understand water migration within the Pittsford Italian Quarry. We have installed flow transmitters. Additional improvements will be made to better understand Pittsford Italian Quarry and Crucial Spring.
- Separately, we've kicked off three specific issue teams which are aimed at engaging and communicating with the public. There are three teams currently in operation – the quarry, plant, trucks issue teams. They are acting as a conduit to the public to improve upon concerns. Those will all continue following the close of this process and many people in this room that are a valuable part of those teams.
- Working with ANR specifically with regard to our Tailings Management Area. We're re-submitting an application to fill in any gaps that are out there.
- No such thing as zero pollution and we're trying to comply. That's why we have regulations in place. We strive for zero pollution and always try to go above and beyond what is required by law.
- Still outside of these Issue Teams we're committed to finding ways to communicate different activities that happen here on the site. We want to report out to the public and we welcome your feedback. We have the website and our community feedback line to receive and respond to questions. We remain committed to expanding forums for community participation and communication.

VII. Thank you – Tony Colak, CEO, Omya

- Emphasized Omya's commitment to the community moving forward and reiterated items addressed in Mike Laurent's presentation
- Thanked residents for their interest and attendance at the community meeting